

## Aoyama, Joyce

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**From:** Aoyama, Joyce  
**Sent:** Wednesday, September 24, 2014 2:06 PM  
**To:** Young, Margo; Lick, Sharon; Szerlog, Michael; Holman, Alvin  
**Subject:** Scanning requirements per National Archives for permanent records

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** Blue Category

Hello,

Here's the information from the NARA website that I pulled for OWW. I think it answers some of the questions from the meeting. When I get back from the next meeting, I'll send another email with schedule information. Please let me know if you have questions.

### 4.2 Scanned Text - <http://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html#scannedtext>

Scanned text is a photograph of a printed page produced either by a digital camera or scanner.

General requirements for scanned text include the following:

- Agencies must digitize to standards appropriate for the accurate preservation of the information on the printed page. When converting analog or film based material (microfilm, microfiche, slides, etc.), agencies must digitize to standards appropriate for the accurate preservation of the original image. Examples of appropriate methods and formats are available on [NARA's Digitization Services Products and Services](#) page;
- **Bitonal** (1-bit black and white) images must be scanned at **300-600 ppi. Scanning at 600 ppi is recommended**. This is appropriate for documents that consist exclusively of clean printed type possessing high inherent contrast (e.g., laser printed or typeset on a white background);
- **Gray scale** (8-bit) must be scanned at **300-400 ppi. Scanning at 400 ppi is recommended**. This is appropriate for textual documents of poor legibility because of low inherent contrast, staining or fading (e.g., carbon copies, thermofax, documents with handwritten annotations or other markings), or that contain halftone illustrations or photographs; and
- **Color (24-bit RGB [Red, Green, Blue])** must be scanned at **300-400 ppi. Scanning at 400 ppi is recommended**. Color mode (if technically available) is appropriate for text containing color information important to interpretation or content.

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## Preferred Formats

Preferred Formats	Format Versions	Format Specifications
Tagged Image File Format (TIFF)	4, 5 & 6	TIFF Revision 6.0 Final — June 3, 1992 Adobe Systems Incorporated: ( <a href="http://partners.adobe.com/public/developer/en/tiff/TIFF6.pdf">http://partners.adobe.com/public/developer/en/tiff/TIFF6.pdf</a> )
Jpeg2000 (JP2)	Part 1 (JP2)	ISO/IEC 15444-1:2004 Information technology – JPEG 2000 image coding system: Core coding system: ( <a href="http://www.iso.org/iso/catalogue_detail.htm?csnumber=37674">http://www.iso.org/iso/catalogue_detail.htm?csnumber=37674</a> )
Portable Network Graphics (PNG)	1.2	ISO/IEC 15948:2004 Information technology -- Computer graphics and image processing -- Portable Network Graphics (PNG): Functional specification: ( <a href="http://www.iso.org/iso/catalogue_detail.htm?csnumber=2958">http://www.iso.org/iso/catalogue_detail.htm?csnumber=2958</a> )
Portable Document Format/Archival (PDF/A)	PDF/A-1	ISO 19005-1:2005 Electronic document file format for long-term preservation – Part 1: Use of PDF 1.4 (PDF/A-1): ( <a href="http://www.iso.org/iso/catalogue_detail?csnumber=38920">http://www.iso.org/iso/catalogue_detail?csnumber=38920</a> )



## Acceptable Formats

Acceptable Formats	Format Versions	Format Specifications
JPEG File Interchange Format (JFIF) with Joint Photographic Experts Group (JPEG) compression	1.02	ISO/IEC 10918-5 Information technology – Digital Compression and coding of continuous-tone still images: JPEG Interchange File Format: ( <a href="http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=54989">http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=54989</a> )  ISO/IEC 10918-1:1994 Information technology – Digital Compression and coding of continuous-tone still images: Requirements and guidelines: ( <a href="http://www.iso.org/iso/catalogue_detail.htm?csnumber=18902">http://www.iso.org/iso/catalogue_detail.htm?csnumber=18902</a> )
Graphics Interchange Format (GIF)	87a & 89a	Graphics Interchange Format (sm) Version 89a: ( <a href="http://www.w3.org/Graphics/GIF/spec-gif89a.txt">http://www.w3.org/Graphics/GIF/spec-gif89a.txt</a> )
PDF/A-2	PDF/A-2	ISO 19005-2:2011 Document management -- Electronic document file format for long-term preservation -- Part 2: Use of ISO 32000-

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From NARA FAQ - <http://www.archives.gov/records-mgmt/faqs/imaged.html#factors>

In addition to the [cost factors](#), other factors that should be considered when determining whether to image documents include:

- **Volume of records.** Imaging is generally used for large volumes of records.
- **Reference use.** Imaging is most effective on highly referenced collections where a short retrieval time is important or where there are multiple users accessing the same records. Combined with effective indexing, imaging records can facilitate retrieval.
- **Relationship to records on other media.** Consider whether the records to be imaged have to be used with records on other media.
- **Records and information usage.** Consider how the information is used and how long the record is needed. Required retention periods are specified in records schedules.
- **Legal acceptability.** Following established procedures and maintaining the documentation of audit trails and other business practices will ensure that information is kept that may be needed to document record authenticity and reliability.
- **Ease of maintenance.** Balance storage costs and capacity with indexing, conversion, quality control, and migration costs.
- **Staffing requirements.** Increased imaging and indexing of records and quality control procedures may require additional staff training.
- **Work process and information flow.** Would imaging facilitate the work process? Considerations include how records are routed, how information is added to records or files, and when records (finals or drafts) need to be captured.
- **Verification of signatures.** If signature verification is a requirement, consider that forensic analysis of signatures is not possible with imaged records.
- **Document preparation.** Determine how much work needs to be done to make the files ready for imaging. Document preparation for voluminous files may be significant.
- **Quality control issues.** QC procedures must be instituted both while preparing documents for imaging and while verifying and validating imaged information.
- **Condition of original records.** The condition of the records will affect their handling during imaging as well as the quality of the imaged record that can be produced. This will particularly be a factor for records that are:
  - damaged
  - faded
  - oversized

- **In-house operation versus contracting operations with a service bureau.**
- **Image requirements** (resolution, compression, headers, etc.) will vary depending on how images will be used.
- **Indexing requirements** and metadata fields are determined by analyzing how users will access images.
- **Requirement to convert permanent records to an acceptable format** prior to transfer to the National Archives of the United States.

Thank you,

Joyce Aoyama  
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